Sauerbruch Hutton, an architectural firm based in Berlin, enjoys an international reputation and exemplifies the highest standards in architecture, urban planning and design. Their unique signature style lends a high recognition value to their work. This usually takes the form of a distinctive and colourful façade design. The new M9 Museum in Venice-Mestre, Italy, is no exception, combining colourful ceramic tiles with exposed concrete.

In December 2018, the long-awaited moment finally arrived: it was time for the new M9 Museum on the history of Italy in the 20th century to open its doors to visitors in Venice-Mestre. The result is not just a single freestanding building, but rather an entire museum district. It breathes new life into the urban design and architecture of the previously faceless industrial city of Mestre, at the gateway to Venice. For example, a building block that used to be completely closed off has been opened up and a new diagonal connecting pathway created amid the new museum district.

Numerous restaurants and shops in the ground floor areas of the new district have livened up the urban space. To the same end, the ground floor of the museum is similarly designed as a large public space with a media library, auditorium, museum shop and café. Inside the museum, you can make your way upstairs via a dramatic wide cascade staircase made of rough, exposed concrete. A continuous array of windows lines the staircase and offer visitors a view of the city as they walk up the steps. An elegant, louvred wooden ceiling made of beech wood and a wooden handrail, along with high quality stone flooring, blend with the rough, exposed concrete of the walls to create an expressive material composition. The first and second floors present the history of Italy in the 20th century, whilst the third floor – flooded with natural daylight from above – is reserved for temporary exhibitions.

The new M9 Museum in Venice-Mestre, designed by Sauerbruch Hutton, uses INDUL N linear diffusers, which provide efficient air distribution without draughts. They make the grade with their elegant design and blend unobtrusively into any room.
Comfortable ambient climate in harmony with the architecture

INDUL N linear diffusers have been installed to provide draught-free air distribution wherever the building technology was designed not to interfere with the representative character of the space. In the rooms that house the permanent exhibition on 20th century history, the diffusers blend unobtrusively into the linear light strips. In the entrance area and foyer, as well as above the cascade staircase, the diffusers also remain invisible to the eyes of visitors, concealed as they are between the finely structured wooden louvres of the intermediate ceiling.

Furthermore, they ensure an efficient supply of fresh air in the auditorium without any noticeable draughts. In total, more than half of the museum area is equipped with INDUL N linear diffusers.

An impressive cascade staircase made of rough, exposed concrete leads visitors to the exhibition rooms on the upper floors. INDUL N linear diffusers are integrated into the finely structured louvred wooden ceiling. They ensure constant room air values even when there is a large number of visitors.
The importance of ventilation and air conditioning technology in museums

Ventilation and air conditioning technology is extremely important in museum construction, as it is largely responsible for the preservation of art treasures. The optimum air humidity and temperature levels depend on the exhibits on display and is usually determined by the conservators responsible. The internationally recommended standard values are 20 °C at 50 % relative humidity. Even more important than keeping to these absolute values, however, is the maintenance of constant air conditions in the room: rapid fluctuations in temperature and humidity are extremely detrimental to the exhibits. Slower changes, such as those that take place as the seasons change, are not problematic. With mixed ventilation systems such as the INDUL N linear diffusers, it is possible to implement relatively high air exchange rates and high temperature differentials – these are necessary to avoid the rapid temperature and humidity fluctuations unwittingly caused by groups of visitors.

Planning offices and architects commissioned to build museums always have to consider how best to integrate ventilation and air conditioning technology at an early stage in the design process. The technology can then be optimally integrated into the existing architecture – without having to compromise on the design of the exhibition rooms. In addition to proven standard solutions, Kiefer also offers customised products which are perfectly tailored to the construction project in question.

The rooms housing the permanent exhibition are located on the first and second floors, where the INDUL N linear diffusers have been unobtrusively integrated into the linear light strips.
Linear Diffuser
INDUL

M9 Museum in Venice-Mestre

Special features
In addition to their elegant design, INDUL N linear diffusers are highly functional. In ventilated rooms, they offer a feel-good atmosphere without perceptible draughts. This is due to special air discharge geometry that produces fine individual jets of air. The ambient air is mixed with these individual jets, whereby the temperature differential between the supply air and room air is reduced over a short distance. Temperature differentials down to -14 K can be easily balanced out. The velocity of the supply air being discharged to the occupied zone is also reduced to such an extent that draughts cannot occur in the first place. With INDUL N linear diffusers, the highest standards of comfort can be achieved through a diffuse, completely smooth ambient air flow. The air flow rate is between 20 and 250 m³/hm.

A further benefit of this technology: ceilings do not become soiled over time, as Kiefer’s free air jet feature distributes the supply air directly into the occupied zone, without dampening the ceilings.

System benefits
- Completely draught-free air distribution
- Small slot widths from just 15 mm
- Unobtrusive installation in ceiling joints
- Temperature differential down to -14 K
- Light, clean ceilings due to free air jet feature
- Straightforward, fast and clean installation in all ceiling systems
- Special installation kit for integration in plasterboard ceilings

Technical Data

<table>
<thead>
<tr>
<th>Object</th>
<th>M9 Museum Quarter, Venice-Mestre, Italy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietor</td>
<td>Polymnia Venezia S.r.l. (Venice)</td>
</tr>
<tr>
<td>Planner</td>
<td>SCE Project S.r.l., Milan</td>
</tr>
<tr>
<td>Architects</td>
<td>Sauerbruch Hutton, Berlin</td>
</tr>
<tr>
<td></td>
<td>Matthias Sauerbruch, Louisa Hutton, Juan Lucas Young</td>
</tr>
<tr>
<td>Products</td>
<td>over 1,000 running metres of linear diffusers INDUL N AVI 24-125 N and INDUL N AVI 45-160 N</td>
</tr>
<tr>
<td>Completion</td>
<td>2018</td>
</tr>
</tbody>
</table>
Linear Diffuser
INDUL

haus salzkammergut, Gmunden

Gmunden’s Klosterplatz square is now home to a competence centre which combines the established and the new. “haus salzkammergut” functions as a modernistic bank branch, as an innovation centre for entrepreneurs and start-ups and as a meeting place for people from the region. Following a year and a half of construction work, the listed former forestry commission office has now been transformed into a lively place of interaction. This is where old meets new, where tradition and innovation coexist in harmony.

The dynamic and vibrant character of haus salzkammergut stems from the diversity of its clientele – customers, entrepreneurs, employees, innovators, lateral thinkers and those who come to relax or chat over good food or a cup of coffee.
Linear Diffuser
INDUL

haus salzkammergut, Gmunden

Features
INDUL linear diffusers allow very small installation widths from just 15 mm. These are available in a range of designs and meet the highest demands in terms of both ventilation comfort and attractive ceiling design for an unobtrusive installation in all types of ceilings. The supply air is divided into fine individual jets which distribute the supply air into the room at an angle of 45° alternately to the left and to the right. The result is an especially uniform air distribution with an optimal diffuse ambient air flow, and no noticeable draughts.

Function Linear Diffuser INDUL
The supply air is divided into fine alternating free jets, intensifying the induction of the ambient air. The high induction permits a very high temperature difference between the ambient air and the supply air. This makes it possible to make use of free cooling, to a certain extent. The required cooling capacity is thus minimised.

System Advantages
- Completely draught-free air distribution
- Low diffuser widths, from 15 mm
- Unobtrusive installation in ceiling joints
- Temperature differences up to –14 K
- Light, clean ceilings due to fine-jet characteristics
- Simple, quick and clean installation in all ceiling systems
- Special installation kit for plaster ceilings

Technical Data

<table>
<thead>
<tr>
<th>Object</th>
<th><a href="http://www.haussalzkammergut.at">www.haussalzkammergut.at</a> - Gmunden, Austria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietor</td>
<td>Raiffeisenbank Salzkammergut, Gmunden, Austria</td>
</tr>
<tr>
<td>Planner</td>
<td>Ing. Wolfgang Taus, Ried im Innkreis, Austria</td>
</tr>
<tr>
<td>Architects</td>
<td>Hinterwirth Architekten, Gmunden, Austria</td>
</tr>
<tr>
<td>Linear diffuser system</td>
<td>About 90 meters INDUL in various designs</td>
</tr>
<tr>
<td>Completion</td>
<td>2018</td>
</tr>
</tbody>
</table>
The London Business School, founded in 1964 and located in London, the heart of the business world, has been delivering world-class business education for 50 years and is ranked as one of the world’s elite business schools.

A need to bring about a considerable expansion of the teaching space in an already congested part of London, lead eventually to an agreement between the School and the local authority, Westminster City Council, to lease the Old Grade II listed Marylebone Town Hall and its Annexe which were no longer in use by the council. Under the agreement, London Business School will spend over £50 million in the fit-out and restoration of the Grade II listed building to its former glory.

Idan Ofer, an industrialist and principal of the Quantum Pacific Group, has pledged through The Idan and Batia Ofer Family Foundation, a £25 million gift towards funding the redevelopment of the building. This cutting-edge teaching and learning facility will be named ‘The Sammy Ofer Centre’ in honour of Idan’s late father, Sammy Ofer KBE, a distinguished shipping magnate and philanthropist.

This iconic three-storey building comprising some 12,000m² and just five minutes’ walk from the existing campus, will increase the teaching space by some 70%. It will contain six new lecture theatres, a library, 35 seminar rooms, offices, staff and faculty suites, a student lounge, broadcast facilities and a new alumni centre. The challenging design includes the insertion of a glazed entrance foyer linking the two buildings, and a new lecture theatre block.
London Business School - Sammy Ofer Centre

Architects Sheppard Robson, were commissioned by the London Business School to create a state-of-the-art teaching centre from the existing structure whilst still retaining the listed buildings key features. The period buildings will be completely refurbished for use by The London Business School and also retaining the ceremonial rooms in the Council House for use by Westminster Registrar’s Office which has seen many stars, including Hollywood actors and former Beatles, tie the knot, to mark a ‘civil partnership’.

The restoration also presented a challenge for the mechanical services and the consultant Long & Partners. Requiring both high quality and performance from the air distribution systems and having successfully worked with Kiefer on many past project, Long & Partners chose the Kiefer INDUL Linear Diffusers to meet the requirements of the new lecture theatres and corridor ventilation. The lecture theatres air distribution systems were to be overhead and integrated into the wooden plank ceiling. Kiefer were able to provide a special version of the INDUL Linear Diffuser whilst still retaining the outstanding, draught free performance characteristics of INDUL.
Linear Diffuser
INDUL

London Business School - Sammy Ofer Centre

Function Linear Diffuser INDUL
The supply air is divided into fine alternating free jets, intensifying the induction of the ambient air. The high induction permits a very high temperature difference between the ambient air and the supply air. This makes it possible to make use of free cooling, to a certain extent. The required cooling capacity is thus minimised.

System Advantages
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- Temperature differences up to –14 K
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- Simple, quick and clean installation in all ceiling systems
- Special installation kit for plaster ceilings

Technical Data

<table>
<thead>
<tr>
<th>Object</th>
<th>London Business School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietor</td>
<td>Wates Ltd, Leatherhead, UK</td>
</tr>
<tr>
<td>Planner</td>
<td>Long &amp; Partners, London, UK</td>
</tr>
<tr>
<td>Architects</td>
<td>Sheppard Robson, London, UK</td>
</tr>
</tbody>
</table>
The centrepiece of the building, designed by top French architect Jean Nouvel, is its enormous dome. It has a diameter of 180 metres and, at 7500 tonnes, weighs almost as much as the Eiffel Tower. The dome consists of a total of nine layers – four external steel layers and four internal aluminium layers, plus the steel supporting structure in between. The offset arrangement of these layers creates 7850 “stars” of varying sizes and at various angles. Depending on how the light is falling, they produce constantly changing shadows on the walls and floors. Amplified by reflections from the water basins, the overall result is an impressionistic work of art composed of light.

The dome stretches across the whitewashed stone block buildings that house the galleries themselves – buildings whose layout of alleys and squares is reminiscent of a medina, the old quarter of an Arabic city. The galleries have a total exhibition area of 8600 m².

The cost of the project amounts, in total, to over € 1.5 billion. The naming rights for the Abu Dhabi Louvre alone amount to over € 400 million for a 30 year period. The additional costs for academic expertise and future hosting of a wide range of exhibitions bring the sum to over € 1 billion. In comparison, the € 580 million spent on the construction of the building starts to look almost modest.

A good ten years elapsed between the launch of the project in March 2007 and its opening. Although the opening date was pushed back several times, this is still a remarkably short engineering and construction period for such an impressive structure, particularly in comparison with major European projects.
Linear Diffuser
INDUL

Museum Louvre Abu Dhabi

Back in autumn 2009, BuroHappold, based in Bath, UK, began conducting air flow tests to ensure the best possible ambient air flow in the galleries, even when conditions outside are at their most extreme. On the basis of their experiments, the INDUL V45 linear diffuser from Kiefer was selected.

In the years that followed, Kiefer developed special linear diffusers based on the discharge profile of the INDUL V45, as defined by the air flow tests, taking account of M. Nouvel’s architectural stipulations and requests. The diffusers in the Permanent Galleries and vestibules are particularly noteworthy, as they had to be integrated into the support structure of the illuminated ceiling. This required special diffusers with a throat height of more than 500 mm and, in some cases, an installed length of just 250 mm. Moreover, at the request of the architect, the discharge profiles needed to be highly polished and the air guide vanes coated.
In the Bronze Galleries and Vestibules, the throats of the linear diffusers as well as the discharge profiles were designed to be visible, appearing as protruding design features. To this end, Kiefer developed special extruded profiles with a height of over 500 mm; and since some of these exceeded 10 m in length, they had to be virtually free of any distortion. All of the visible surfaces here were powder coated in matt RAL 9004, with the extremely low gloss level required presenting a further challenge.
Linear Diffuser
INDUL

Museum Louvre Abu Dhabi

Function Linear Diffuser INDUL
The supply air is divided into fine alternating free jets, intensifying the induction of the ambient air. The high induction permits a very high temperature difference between the ambient air and the supply air. This makes it possible to make use of free cooling, to a certain extent. The required cooling capacity is thus minimised.

System Advantages
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- Temperature differences up to –14 K
- Light, clean ceilings due to fine-jet characteristics
- Simple, quick and clean installation in all ceiling systems
- Special installation kit for plaster ceilings

Technical Data

<table>
<thead>
<tr>
<th>Object</th>
<th>Louvre Abu Dhabi</th>
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<tbody>
<tr>
<td>Proprietor</td>
<td>Tourism Development &amp; Investment Company</td>
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<tr>
<td>Planner</td>
<td>BuroHappold, Bath, UK</td>
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<tr>
<td>Architects</td>
<td>Ateliers Jean Nouvel, Paris</td>
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<tr>
<td>Linear Diffuser-System</td>
<td>Approx. 4,000 pieces Linear Diffuser INDUL V45 in special design</td>
</tr>
<tr>
<td>Completion</td>
<td>2017</td>
</tr>
</tbody>
</table>
Linear Diffuser
INDUL

Montblanc Boutiques in Munich and Vienna

When it comes to comfort, optimised air handling technology and design are inseparable. An appealing ceiling design and quiet, space efficient, reliable air handling technology must create a harmonious whole.

For more than a century, Montblanc has created the finest writing instruments, timepieces, jewellery and leather goods. At the beginning of May, the company celebrated the opening of its boutique at Maximilianstraße 14 in Munich, and the renovation of its showroom at Graben 15, Vienna. Over 200 square metres of retail space has been refurbished to provide the best possible ambience in which to promote the sale of luxury accessories for men.

French interior designer, Noé Duchaufour-Lawrance, was given the task of creating a new Montblanc boutique concept in 2015. He focused on the three design elements which he felt best represented the company’s long history and its traditions: cursive handwriting, the company emblem and a passion for craftsmanship.

On entering the boutique, customers are invited at their own pace, to discover more about the history of Montblanc and its remarkably diverse range of collections.

The play of light against dark, with dark wood insets, characterises the design of this attractive showroom interior. Filigree linear diffusers set into the ceiling make a strong textured design statement. Curves that sweep around corners add to the aesthetic appeal of the showroom without taking anything away from its functionality – an optimum ambience is maintained throughout, which is so important for customer wellbeing and consequent purchasing behaviour.
Linear Diffuser
INDUL

Montblanc Boutiques in Munich and Vienna

Proven technology in new interiors

As soon as they enter the showroom, customers appreciate the minimalist design and the feel-good ambiance – expressions of the lifestyle represented by the brand. Customers are protected from draughts through INDUL linear diffuser technology, which offers an indirect ambient air flow for the highest level of comfort.

The appealing curved design language of the diffusers proves that air handling equipment can work well as an interior design element. Simple in shape and individually adaptable, each diffuser can be let into the ceiling without creating raised edges.

With an interior design concept that includes air handling equipment, Montblanc presents itself to its clientele as both a progressive and a professional company.
» DELICATE DESIGN AND HIGHEST COMFORT «
Linear Diffuser
INDUL

Montblanc Boutiques in Munich and Vienna

Special Features
The main challenge raised by these projects was to find a way to adapt the air diffusers so that they would fit into the corporate interior design concept, which was characterised by rounded corners and “flowing” design elements. INDUL Linear Diffusers match Montblanc company colours, too, which are predominantly white and black.

Function Linear Diffuser INDUL
The supply air is divided into fine alternating free jets, intensifying the induction of the ambient air. The high induction permits a very high temperature difference between the ambient air and the supply air. This makes it possible to make use of free cooling, to a certain extent. The required cooling capacity is thus minimised.

System Advantages
- Completely draught-free air distribution
- Low diffuser widths, from 15 mm
- Unobtrusive installation in ceiling joints
- Temperature differences up to –14 K
- Light, clean ceilings due to fine-jet characteristics
- Simple, quick and clean installation in all ceiling systems
- Special installation kit for plaster ceilings

Technical Data

<table>
<thead>
<tr>
<th>Building</th>
<th>Montblanc Boutique, Maximilian Str. 14, Munich</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietor</td>
<td>Montblanc International GmbH</td>
</tr>
<tr>
<td>Planner</td>
<td>Ingenieurbüro Ingo Geib GmbH, Munich</td>
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<tr>
<td>Architect</td>
<td>Jan Hehenberger Architekten, Munich</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Building</th>
<th>Montblanc Boutique, Graben 15, Vienna</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietor</td>
<td>Montblanc Simplo GmbH, Hamburg</td>
</tr>
<tr>
<td>Planner</td>
<td>Engie Gebäudetechnik GmbH, Vienna</td>
</tr>
<tr>
<td>Architect</td>
<td>Heine Architekten, Hamburg</td>
</tr>
</tbody>
</table>
Luxurious Hotel Suites in EMA House in Zurich

In Zurich, EMA House is numbered among the leading providers of superior hotel suites and serviced apartments.

EMA House Hotel Suites located in Zurich, originally built in 1995, were comprehensively renovated in the period from November 2014 to May 2015. In a top location – only 10 minutes on foot to the main station – all suites were fitted out with high-quality materials, and the technical systems including the air-conditioning completely modernised.

Contemporary standards and first-class service address the requirements of both business and private travellers who prefer the space and privacy offered here to a conventional hotel room.

<table>
<thead>
<tr>
<th>Building:</th>
<th>EMA House Hotel Suites Nordstrasse 1, 8006 Zürich</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietor:</td>
<td>EMR Properties AG, Zürich</td>
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<tr>
<td>Architect:</td>
<td>Ushi Tamborriello Baden, Schweiz</td>
</tr>
<tr>
<td>General planner:</td>
<td>Fanzun AG, Zürich Dipl.-Architekten und Ingenieure</td>
</tr>
<tr>
<td>Consulting HVAC:</td>
<td>Peter Berchtold Sarnen, Schweiz</td>
</tr>
<tr>
<td>Linear diffuser-system:</td>
<td>INDUL linear diffuser V45 horizontal with INDULSNAP-blowing geometrie</td>
</tr>
</tbody>
</table>

Horizontally-oriented INDUL linear diffusers by Kiefer with INDULSNAP discharge geometry in the hotel suites simultaneously ensure optimum air distribution and aesthetically pleasing ceilings.
Linear Diffuser INDUL

EMA House in Zurich: Luxury with air-conditioned comfort

Function Luftdurchlass INDUL:
The supply air is divided into fine individual jets which distribute the supply air into the room at an angle of 45° alternatively to the left and to the right. The result is an especially uniform air distribution with an optimal diffuse ambient air flow, and no noticeable draughts.

System advantages:
- Completely draught-free air distribution
- Low diffuser widths, from 15 mm
- Unobtrusive installation in ceiling joints
- Temperature differences up to -14 K
- Light, clean ceilings due to fine-jet characteristics
- Simple, quick and clean installation in all ceiling systems
- Special installation kit for plaster ceilings

Luxury with air-conditioned comfort

Optimised air-conditioning technology and design are inseparable when it is a question of comfort. An attractive ceiling design and a quiet, space-saving and reliable air-conditioning system need to harmonise with each other. Especially in luxury hotels, optimised air-conditioning is a prerequisite for guests’ well-being. Here the demands of a hotel and its guests know no limits. The energy requirements of even large rooms such as ballrooms and conference halls, which are not in continuous use, can be optimised with comfortable air-conditioning.

INDUL air diffusers in a single-room Junior Suite and in spacious two-room suites
INDUL
Linear diffuser

Auditorium Allianz SE in Munich

Photos © Ken Schluchtmann

Architectural challenge

The architectural renovation of the Allianz SE headquarters in Munich represents the combination of timeless modernity and detailed design. The atrium is the centre of the entire building. As well as being the reception hall, it also acts as a junction connecting the various parts of the building that stretch over four levels from the conference room to the garden terrace.

The major principles behind the new Allianz auditorium were sustainability and respect for nature – another project in which we were able to show our expertise in the elegant integration of air diffusers. The interior architecture posed particularly high requirements on the ventilation technology, calling for custom solutions as far as integrating the ventilation systems into the established design concepts was concerned. Finding a perfect ventilation technology solution that is both high-quality and creative: that is the challenge that we rise to over and over again.

Features

The process of creating the illuminated ceiling in the auditorium comprised many individual steps, in which we worked closely with the manufacturer beforehand using models and patterns to develop the structure of the linear diffusers. This required dividing the linear diffuser into multiple individual parts, and designing and manufacturing each one so that it could be fitted into the construction of the ceiling segments perfectly. For this reason, each linear diffuser was designed on an individual basis and manufactured according to the dimensions of the individual ceiling segments. The linear diffusers were also integrated elegantly into the lighting rails of the entrance area and the adjoining rooms, using the lighting to create a feeling of stylish unity. The result is the perfect integration of linear diffusers designed in accordance with the requirements of the interior architecture that simultaneously meet the high requirements placed on the ventilation technology with regard to ambient air flow and comfort.
INDUL
Linear diffuser

Auditorium Allianz SE in Munich

Function linear diffuser INDUL:
INDUL linear diffusers allow very small installation widths from just 15 mm. These are available in a range of designs and meet the highest demands in terms of both ventilation comfort and attractive ceiling design for an unobtrusive installation in all types of ceilings. The supply air is divided into fine individual jets which distribute the supply air into the room at an angle of 45° alternately to the left and to the right. The result is an especially uniform air distribution with an optimal diffuse ambient air flow, and no noticeable draughts.

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Building: Auditorium Allianz Munich
Proprietor: Allianz Munich
Architects: Weickenmeier, Kunz + Partner Architekten, Ingenieure GmbH
dan pearlman, Marken- und Erlebnisarchitektur GmbH, Berlin
Consultant: ITG GmbH, Eching/Weixerau
Air diffuser system: Linear diffuser INDUL Wall air passage INDULSNAP each as a special solution according to customer’s requirement
Completion: 2014

Photos © Ken Schluchtmann
The new Prada Museum in Milan is an industrial complex dating from 1910, comprising seven existing structures, including warehouse, laboratories, and brewing silos surrounded by a large courtyard and three new structures including a museum for temporary exhibitions, a transformable cinema building and a 10-story high gallery tower. In this way, obsolete and decrepit buildings with the charm of industrial archeology and their profound decline, return to live. It is an important project of urban renewal in a suburban area of the the city. This project has been designed by the architectural firm OMA led by Rem Koolhaas. Fondazione Prada Milan is an exhibition space dedicated to contemporary art and culture. It is housed in a complex that for many years functioned as a distillery before that has been changed by OMA. Located in the south of Milan, the new Museum of Fondation Prada will be opened in May 2015.

Features

The heart of the exhibition areas must ensure strict conditions for constant temperature and humidity for the entire year, because of the permanent exhibition of fine art works from all over the world. We supplied about 500 running meters of INDUL linear diffusers, not only to optimise the air diffusion but also the acoustic aspects with significant silencers.

The Fondazione Prada was created in 1993 by Miuccia Prada – the youngest granddaughter of Mario Prada and heading the family-owned luxury goods manufacturer since 1978 – and her husband Patrizio Bertelli, as a platform to analyse present times through the staging of contemporary art exhibitions as well as architecture, cinema and philosophy projects. The complex in Milan is an addition to the Fondazione’s exhibition space in Venice, the Ca’ Corner della Regina, a historic palazzo on the Grand Canal and hosting exhibitions since 2011.
INDUL
Linear Diffuser

Prada Museum Milano

Function linear diffuser INDUL:

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- Special installation kit for plaster ceilings

Building: Prada Museum
Fondazione Prada
Milan, Italy

Proprietor: Fondazione Prada Milan

Architects: OMA - Rem Koolhaas
Rotterdam/ New York

Sales partner: SAGICOFIM S.p.A.
Italy

Linear diffuser system: Linear diffuser INDUL
500 running meters
INDUL V45 and significant silencers

Completion: May 2015
INDUL
Linear Diffuser

Casino Bregenz – Rebuilding and redesigning of the facade

With the renovation of Casino Bregenz and its optimal location directly on the lakeside promenade, the “culture mile” of Lake Constance is gaining a new architectural jewel. The new eye-catching façade, with its 6500 LEDs which can all be controlled individually, is an internationally unique project. When darkness falls, the façade construction is transformed into a luminous cascade of colours, which adds to the experience of an evening at the casino.

The building consists of several pavilions whose designs form a symbiotic relationship with the countryside, Lake Constance, the parks and the large festival hall. A 20-metre-long panorama window provides a fantastic view from the lounge seating for over 300,000 visitors each year, simultaneously allowing people outside a view into the vibrant hustle and bustle in the casino hall – a film-worthy location not least because the festival hall was a filming location for the James Bond film “Quantum of Solace”.

Features
Numerous air outlets from Kiefer, which were developed together with the architect and technical building services planner, were used as special solutions in the renovation of this architectural gem. The INDUL linear diffuser, with its special connection profiles for integration into the mirrored ceiling and flooring, was adopted as a solution. The INDUL-SNAP wall diffuser was integrated as a special solution into the monitor wall. All the air outlets blend in seamlessly with the remarkable interior architecture.

Following renovation, the Casino Bregenz re-opened in spring 2014 with a re-designed bar and comfortable lounge.
INDUL
Linear Diffuser

Casino Bregenz – Enlargement play area

Function linear diffuser INDUL:

INDUL linear diffusers allow very small installation widths from just 15 mm. These are available in a range of designs and meet the highest demands in terms of both ventilation comfort and attractive ceiling design for an unobtrusive installation in all types of ceilings. The supply air is divided into fine individual jets which distribute the supply air into the room at an angle of 45° alternately to the left and to the right. The result is an especially uniform air distribution with an optimal diffuse ambient air flow, and no noticeable draughts.

System advantages:

- Completely draught-free air distribution
- Low diffuser widths, from 15 mm
- Unobtrusive installation in ceiling joints
- Temperature differences up to -14 K
- Light, clean ceilings due to fine-jet characteristics
- Simple, quick and clean installation in all ceiling systems
- Special installation kit for plaster ceilings

Building:
Casino Bregenz

Proprietor:
Casinos Austria AG Vienna

Architects:
ART ARCH 23 Innsbruck

Consulting:
Klimaplan Hohenems

Linear diffuser system:
Linear diffuser INDUL Wall air passage INDULSNAP as extra solution depending on customers specification

Completion:
2014
INDUL
Linear Diffuser

New building for German Accident Insurance DGUV

The new building for the German Social Accident Insurance DGUV in a prime location in the middle of Berlin, a new seven story building with 10,600 m² gross floor area, 8,000 m² usable floor space and 22 underground parking spaces, is not only an architectural highlight but also the implementation of a new type of room concept. Instead of conference tables, there are several communication zones which are accessible to everyone. That means: getting out of your own office to have a discussion with colleagues.

The new building was designed by the architect's office Grüntuch Ernst Architekten and received a DGNB gold certification. The DGUV is the umbrella organisation of the accident insurance institutions for the industrial and public sectors. The central tasks of the statutory accident insurance are prevention, rehabilitation and compensation.

Special features
In the offices, INDULSNAP wall air passages were integrated into furniture trim elements above the built-in cupboards. To match the colour, the visible elements were manufactured in a custom colour similar to anodized bronze. The large conference room is very attractive: It can be divided into three units and has a large skylight for natural lighting. All wall and ceiling surfaces consist of large wooden panels. The INDUL linear diffuser is visually unobtrusive. It is completely black and visibly mounted between the panels.
INDUL 
Linear Diffuser

New building for German Accident Insurance DGUV

Function linear diffuser INDUL:

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System advantages:

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- Low diffuser widths, from 15 mm
- Unobtrusive installation in ceiling joints
- Temperature differences up to -14 K
- Light, clean ceilings due to fine-jet characteristics
- Simple, quick and clean installation in all ceiling systems
- Special installation kit for plaster ceilings
- Spezieller Montagesatz zum Einbau in Gipsdecken

Building: DGUV, Berlin
Proprietor: DGUV, Berlin
Project development: Freo Projektentwicklung Berlin GmbH
Architect: Grüntuch-Ernst Architekten BDA, Berlin
Consulting: Ingenieurbüro DELTA-I, Berlin
Linear diffuser system: Schlitzdurchlass INDUL Wandluftdurchlass INDULSNAP jeweils als Sonderlösung nach Kundenanforderung
Completion: 2014
Special features: DGNB Goldzertifizierung
Hermès is pleased to announce the re-opening of its boutique in Vienna. The 245 square meter business has a new look and will surprise its customers with its modern French luxury department store style. The renovation was designed by RDAI – a Parisian architecture office responsible for all Hermès stores worldwide. Founded by Rena Dumas and under the artistic direction of Denis Montel for a few years now.

After passing through the entrance gate – the building’s façade is from the 19th century –, the customer gets a feeling of astonishment as well as re-discovery. The boutique is flooded with more natural light and the 16 different Hermès departments are re-arranged over 2 floors. The entire entrance area, the elegant floor of which shines in characteristic Hermès mosaic in grey, beige and red, is dedicated to leather accessories, jewellery and silk goods for women and men. On the same floor on the left side are the “Art de Vivre” and the “Maison” departments as well as small leather goods, and the equestrian collection, which now has its own dressing room.

A symbol of the Hermès lifestyle is the leather-covered staircase, which was designed by Rena Dumas for the store opening in 2001. It leads customers to the upper floor where leather goods are located at the end. This floor, which is flooded with lots of natural light, creates an atmosphere of trust and invites discovery of jewellery, watches and prêt-à-porter for men and women. The view through the window provides a gorgeous, historic ambience of Graben. The boutique accommodates art work from the Hermès collection of contemporary photography and the Émile Hermès collection. These works include “Citrons, Santulussurgiu” (2006) from the photographs of Patrick Faigenbaum and “Le duc attelé” (2011), a print from Philippe Dumas.

The family company of Hermès is managed by Patrick Thomas, the managing director. The artistic direction is under Pierre-Alexis Dumas, a sixth generation family member.
Linear Diffuser
INDUL

Hermès Boutique Vienna

Function Linear diffuser INDUL:
INDUL linear diffusers allow very small installation widths from just 15 mm. The are available in a range of designs and meet the highest demands in terms of both ventilation comfort and attractive ceiling design for an unobtrusive installation in all types of ceilings. The supply air is divided into fine individual jets which distribute the supply air into the room at an angle of 45° alternately to the left and to the right. The result is an especially uniform air distribution with an optimal diffuse ambient air flow, and no noticeable draughts.

System advantages Linear Diffuser INDUL:
- Completely draught-free air distribution
- Low diffuser widths, from 15 mm
- Unobtrusive installation in ceiling joints
- Temperature differences up to -14 K
- Light, clean ceilings due to fine-jet characteristics
- Simple, quick and clean installation in all ceiling systems

Object: Hermès Boutique Vienna
Architects: RDAI, Paris
Planning office: BPS Engineering, Wien
Linear diffuser systems: INDUL linear diffuser V20 / V24
Type of ceiling: Plasterboard ceiling
Every Waldorf Astoria is an inspiring showplace, a very unique destination, a place full of unforgettable events where positive experiences everywhere are the order of the day. In keeping with the legend of the famous Park Avenue in New York original, combined with a healthy dose of Berlin cosmopolitanism, the Waldorf Astoria in Berlin offers a first-class address in the heart of the best shopping, tourism and commercial district in the German capital.

The 31-story hotel has over 2,000 m² of special conference and meeting spaces, an over 1,000 m² large spa and wellness area, elegant restaurants and bars as well as an underground parking garage of its own. All 182 rooms of the Deluxe and Superior categories, as well as the total of 50 suites, offer an impressive view of the city skyline, including the Gedächtniskirche and the Zoological Gardens.

The John Jacob Astor Ballroom is a versatile, professionally-equipped room with experienced personnel for successful meetings, conferences and corporate events.
Linear Diffuser
INDUL

Waldorf Astoria Berlin

INDUL air diffuser function
Linear diffuser INDUL allow very narrow installed widths beginning at 15 mm. They can be integrated easily into all ceiling joints for demanding requirements for ventilation comfort and an aesthetic ceiling appearance.

The inlet air is distributed into fine individual streams and is lead into the room to the left and right at 45° angles in alternating fashion. The result is an especially even air distribution with optimally diffuse ambient air flow – with the air draft being imperceptible.

Linear diffuser INDUL have been installed in the following Waldorf Astoria room areas:
- Hotel rooms
- Suites (Presidential Suite)
- Lobby
- Restaurants
- Conference rooms
- Ballroom
- Spa– and wellness area
- Offices

System advantages:
- Completely draught-free air distribution
- Small slot widths beginning at 15 mm
- Subtle installation into ceiling joints
- Temperature difference up to −14 K
- Bright and clean ceilings through free-flow characteristics
- Simple, fast and clean installation in all ceiling systems
- Special installation kit for installation in plasterboard ceilings

Conference room with integrated ceiling ventilation INDUL linear diffuser.

In the “Les Solistes” of the Waldorf Astoria Berlin, Pierre Gagnaire, the famous head chef and recipient of multiple Michelin stars, has created a modern gourmet restaurant with a relaxing ambience.

Object:
Hotel Waldorf Astoria Berlin

Architects:
Prof. Christoph Mäckler Architects

Interior architecture:
Aukett + Heese GmbH, Berlin

TGA Planning office:
Ingenieurgesellschaft Grabe mbH, Hannover

Linear diffuser systems:
INDUL linear diffuser

Coverage:
50 - 180 m³/hm

Type of ceiling:
Plasterboard and metal panel ceiling

Photos © Waldorf Astoria Berlin
Linear Diffuser
INDUL

Private brewery Meckatzer Löwenbräu, Heimenkirch

The foyer impresses with its height and curved lines. Generous and flooded with light, it becomes the heart of the brewery and forms its communications centre.

The administration building of Meckatzer Löwenbräu is an impressive new construction, that is intended as the brewery’s heart and communications centre. A visitor strides past the old and new mashhouses, through the redesigned courtyard towards the new building, and enters the administration building through the curved entry portal.

The employees pass from here to their offices, the maintenance workshop or the filling plant. In addition visitors are received here and will be taken by their contact partner to one of the meeting rooms, or to the generously-designed lounge on the first floor.

Optimised air-conditioning technology and design are inseparable when it is a question of comfort. An attractive ceiling design and a quiet, space-saving and reliable air-conditioning system need to harmonise with each other.
Linear Diffuser
INDUL

Private brewery Meckatzer Löwenbräu, Heimenkirch

Function Luftdurchlass INDUL
INDUL linear diffusers allow very small installation widths from just 15 mm. These are available in a range of designs and meet the highest demands in terms of both ventilation comfort and attractive ceiling design for an unobtrusive installation in all types of ceilings. The supply air is divided into fine individual jets which distribute the supply air into the room at an angle of 45° alternately to the left and to the right. The result is an especially uniform air distribution with an optimal diffuse ambient air flow, and no noticeable draughts.

System advantages:
- Completely draught-free air distribution
- Low diffuser widths, from 15 mm
- Unobtrusive installation in ceiling joints
- Temperature differences up to -14 K
- Light, clean ceilings due to fine-jet characteristics
- Simple, quick and clean installation in all ceiling systems
- Special installation kit for plaster ceilings

For the employees, workplaces have been created that are justified by the aspiration to above-average performance.

The lounge area on the first floor shows the intricate integration of INDUL ceiling ventilation.
Bundeskanzleramt Berlin

With its height of 36 metres, its modern architecture combining light colour and imposing glass facades, the Bundeskanzleramt stands in direct contrast to the neo-baroque Reichstag building opposite. The horizontal division mirrors both function and use, whereas the pillars distributed within the glass facades are principally aesthetic rather than load-bearing structures. The lower floor houses the entire administration while the complete staff and the office of the Federal Chancellor occupy the upper part of the building.

Function linear diffuser INDUL

The supply air is divided into fine individual jets which distribute the supply air into the room at an angle of 45° alternately to the left and to the right. The result is an especially uniform air distribution with an optimal diffuse ambient air flow, and no noticeable draughts.

System advantages

- Completely draught-free air distribution
- Low diffuser widths, from 15 mm
- Unobtrusive installation in ceiling joints
- Temperature differences up to -14 K
- Light, clean ceilings due to fine-jet characteristics
- Simple, quick and clean installation in all ceiling systems
- Special installation kit for plaster ceilings

Building: Bundeskanzleramt Berlin
Architects: Axel Schultes Architekten Berlin
Proprietor: Bundesbaugesellschaft Berlin
Consultant, building services: Schmidt Reuter Partner Cologne

Linear diffuser system: INDUL V 20
Type of ceiling: Plasterboard ceiling
Specific air flow: 70-95 m³/hm
Following this general refurbishment and extension by the architects Dietrich / Untertrifaller, the Festspielhaus Bregenz, built originally at the end of the seventies, radiates a new splendour and a thoroughly modern ambiance. With a new glass facade in place of the previous hermetic concrete walls, it is not just the redesigned entrance area but the entire building which is characterised by transparency and openness: flooded with sunlight during the day, and brightly lit at night. Comprehensive technical improvements in the fields of air-conditioning and ventilation, stage equipment, acoustics, lighting technology, and fire protection ensure brilliance, comfort and energy efficiency. Today the Festspielhaus is numbered among the leading entertainment venues in the German-speaking countries.

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<thead>
<tr>
<th>Building:</th>
<th>Festspielhaus, Bregenz</th>
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<tr>
<td>Architects:</td>
<td>Architekturbüro</td>
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<tr>
<td>Dietrich / Untertrifaller Bregenz</td>
<td></td>
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<tr>
<td>Proprietor:</td>
<td>Landeshauptstadt Bregenz</td>
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<tr>
<td>Consultant team:</td>
<td>18 engineering consultancies</td>
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<tr>
<td>Project managed by Christian Freuts</td>
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<tr>
<td>Linear diffuser system:</td>
<td>INDUL linear diffuser Types P15, P18, V45</td>
</tr>
<tr>
<td>Type of ceiling:</td>
<td>Plasterboard ceilings</td>
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</tbody>
</table>
Linear Diffuser INDUL

Festspielhaus, Bregenz

Function linear diffuser INDUL
The supply air is divided into fine individual jets which distribute the supply air into the room at an angle of 45° alternately to the left and to the right. The result is an especially uniform air distribution with an optimal diffuse ambient air flow, and no noticeable draughts.

System advantages
- Completely draught-free air distribution
- Low diffuser widths, from 15 mm
- Unobtrusive installation in ceiling joints
- Temperature differences up to -14 K
- Light, clean ceilings due to fine-jet characteristics
- Simple, quick and clean installation in all ceiling systems
- Special installation kit for plaster ceilings

The large auditorium in the Festspielhaus has been fitted with new seating, whose rows are arranged as in an amphitheatre, and acacia-wood panelling for a sublime atmosphere and an attractive appearance.

With seating for about 1800, the Festspielhaus Bregenz is one of the largest theatres in Europe. There were improvements too in the stage equipment and in the lighting and sound installations. Extended reverberation times have improved the acoustics.
The new Wellness Oasis in Romantik Hotel Sackmann in the heart of the Black Forest. Founded in 1927 and now in the hands of the third generation, the feel-good idea dominates here – an inexhaustible variety of aromas for all tastes.

Top chef Jörg Sackmann has fulfilled a wellness dream in his Romantik Hotel in the Black Forest. In cooperation with the world’s leading planners in this sector, Schletterer Wellness & Spa Design, and the experienced hotel and wellness architects Vögele, a variety of aromatic thermal baths with a stylish ambiance has been created over an area of 1,000 m² in which the proprietor’s culinary leitmotiv is clearly evident. The favoured aromas from Sackmann’s culinary arts find expression in the spa area, whether in flower and herb steam baths, the Himalaya salt-stone sauna, or the wine and honey vaporised in the Finnish kelo spruce sauna. Fitness, massage and rest rooms, ayurveda applications and an indoor swimming pool round off your options. Here, it is not a matter of checking in, but of arriving and feeling well cared for in body and soul.

<table>
<thead>
<tr>
<th>Building:</th>
<th>Hotel Sackmann</th>
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<tr>
<td>Proprietor:</td>
<td>Hotel Sackmann</td>
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<tr>
<td>Architects:</td>
<td>Architekturbüro Vögele Freudenstadt</td>
</tr>
<tr>
<td>Consulting:</td>
<td>Schletterer Wellness &amp; SPA Design Strass, Austria</td>
</tr>
<tr>
<td>Planning office:</td>
<td>Planungsbüro Haustechnik Liepelt Baiersbronn</td>
</tr>
<tr>
<td>Wellness area:</td>
<td>1000 m²</td>
</tr>
<tr>
<td>Type of ceiling:</td>
<td>Plasterboard ceilings</td>
</tr>
<tr>
<td>Linear diffuser system:</td>
<td>INDUL linear diffusers Types: P15, P18, V45</td>
</tr>
</tbody>
</table>
Linear diffuser
INDUL

Hotel Sackmann, Baiersbronn

Function linear diffuser INDUL
The supply air is divided into fine individual jets which distribute the supply air into the room at an angle of 45° alternately to the left and to the right. The result is an especially uniform air distribution with an optimal diffuse ambient air flow, and no noticeable draughts.

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- Light, clean ceilings due to fine-jet characteristics
- Simple, quick and clean installation in all ceiling systems
- Special installation kit for plaster ceilings

Feel-good climate in wellness area
Optimised air-conditioning technology and design are inseparable when it is a question of comfort. An attractive ceiling design and a quiet, space-saving and reliable air-conditioning system need to harmonise with each other. Especially in a wellness area, an optimised air-conditioning system is a prerequisite for guests' well-being. Here everything has to be spot on: comfortable warmth, low ambient air velocities, and the right illumination. Bathing and rest rooms, saunas, massage centres and cooled areas, and, not least, compliance with regional and international standards for use of energy and air-conditioning systems. Here the demands of a hotel and its guests know no limits.

Linear diffuser INDUL in the swimming pool area
Linear Diffuser
INDUL

Museum Frieder Burda, Baden-Baden

For Baden-Baden, the Frieder Burda Stiftung is not just an exceptional collection, but also a splendid museum remarkable for its artistic combination of light and glass. In June 2006 this building, designed by the New York architect Richard Meier and inaugurated in October 2004, was awarded the international "2006 Institute Honor Award for Architecture".

Function linear diffuser INDUL

The supply air is divided into fine individual jets which distribute the supply air into the room at an angle of 45° alternately to the left and to the right. The result is an especially uniform air distribution with an optimal diffuse ambient air flow, and no noticeable draughts.

System advantages

- Completely draught-free air distribution
- Low diffuser widths, from 15 mm
- Unobtrusive installation in ceiling joints
- Temperature differences up to -14 K
- Light, clean ceilings due to fine-jet characteristics
- Simple, quick and clean installation in all ceiling systems
- Special installation kit for plaster ceilings

Building: Museum Frieder Burda Baden-Baden
Architects: Richard Meier New York
Proprietor: Frieder Burda
Consultant: SEF Ingenieure Karlsruhe
Linear diffuser system: INDUL P18 / V20 / V45
Type of ceiling: Plasterboard ceilings and open lamella ceilings
Scope: 1250 m² conditioned area
Specific air flow: 50-130 m³/hm
Scope of order: 610 rm. linear diffusers, Types P18 / V20 / V45
INDUL
Linear Diffuser

K20 Art collection Northrhine-Westphalia

The building housing the art collection at Grabbeplatz in Düsseldorf with its characteristic black granite facade has had an extension added, the architectural use of form blending in seamlessly with the old building. The architect’s office Dissing + Weitling from Copenhagen has implemented a noble and understated building with contemporary architectural details, allowing the exceptional works of art to take centre stage. There are no posts which might impede vision.

Light, safety and air conditioning technology were brought to the latest state of the art to allow the facility to continue showing international items on loan. An additional 2,000 m² expand the overall exhibition area to over 5,000 m², providing a technically sophisticated supplement to the existing building which was fully refurbished for the reopening in July 2010.

The Art Collection Northrhine-Westphalia is regarded as one of the most beautiful art collections in the world. Its secret is the concentration and density of true masterpieces of the 20th century. From modern art to the present, this collection looks back at 100 years of art history with works ranging from Beuys to Kandinsky and Rauschenberg. Visitors are invited to follow the pictures’ own rhythm, using art to venture into new and unknown territory with curiosity and openness.

Function Linear diffuser INDUL:
The supply air is divided into fine individual jets which distribute the supply air into the room at an angle of 45° alternately to the left and to the right. The result is an especially uniform air distribution with an optimal diffuse ambient air flow, and no noticeable draughts.

System advantages
- Completely draught-free air distribution
- Low diffuser widths, from 15 mm
- Unobtrusive installation in ceiling joints
- Temperature differences up to -14 K
- Light, clean ceilings due to fine-jet characteristics
- Simple, quick and clean installation in all ceiling systems
- Special installation kit for plaster ceilings

| Building: | K20 Art collection Northrhine-Westphalia Düsseldorf |
| Architect: | Architects Dissing + Weitling, Copenhagen |
| Proprietor: | Bau- und Liegenschaftsbetrieb Nordrhein-Westfalen, Düsseldorf |
| Consultant: | Bau- und Liegenschaftsbetrieb Nordrhein-Westfalen, Düsseldorf |
| Linear diffuser system: | INDUL AP18, AV20, AV45 |
| Type of ceiling: | Mineral fibre ceiling |
Linear Diffuser
INDUL

Carlo Felice Theatre, Genoa

With the construction of the Carlo Felice Theatre in Genoa, the architects Aldo Rossi and Ignazio Gardella of Milan pursued two principal objectives: firstly, the reconstruction of the theatre in precisely the same place as it was originally built by Carlo Barabino on the ruins of an old monastery, and then equipping it with the latest technology. Geometry and modernity are here skillfully combined with local tradition. The entire technical equipment for the theatre is housed in a cubistic stage tower in art-deco style. With its ultra-modern stage equipment and brilliant acoustics, the Carlo Felice Theatre is a highly respected cultural site throughout Europe.

Function linear diffuser INDUL
The supply air is divided into fine individual jets which distribute the supply air into the room at an angle of 45° alternately to the left and to the right. The result is an especially uniform air distribution with an optimal diffuse ambient air flow, and no noticeable draughts.

System advantages
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- Unobtrusive installation in ceiling joints
- Temperature differences up to −14 K
- Light, clean ceilings due to fine-jet characteristics
- Simple, quick and clean installation in all ceiling systems
- Special installation kit for plaster ceilings

Building: Carlo Felice Theatre
Genoa

Architects: Aldo Rossi + Ignazio Gardella
Milan

Linear diffuser system: INDUL Type P 18 – 125

Type of ceiling: Plasterboard ceilings

Specific air flow: 90 m³/hm